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EXAMINER

TRAN, NGHI V

ART UNIT

PAPER NUMBER

2151

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

1. This office action is in response to the amendment filed on March 14, 2006.

Claims 1-34 have been previously presented. Therefore, claims 1-34 are presented for further examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4, 8, 10-12, 14-15, 18, 20-22, 25, 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horn et al., U.S. Patent No. 6,379,314 (hereinafter Horn), in view of Goldstein, U.S. Patent No. 6,868,163 (hereinafter Goldstein).

4. With respect to claims 1, 11, 21, and 27, Horn teaches a method of testing the hearing of a user utilizing a computer system, the computer system including a computer and a speaker, the computer operable to generate an electrical signal and then to output the electrical signal to the speaker, the speaker operable to convert the electrical signal into a stimulus, the method comprising:

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- (a) downloading a computer program from a server to the computer [col.4, Ins.25-30];
- (b) executing the computer program on the computer including providing a digital stimulus signal comprising a combination of a first sub-stimulus and second sub-stimulus; the first sub-stimulus being within the audible range of humans, the second sub-stimulus being outside of the audible range of humans [col.4, ln.14 - col.5, ln.51 i.e. "during this study the decibel level is tested in 10dB increments to 120dB for each frequency tested unit consecutive responses are elicited"];
- (c) generating a stimulus using the digital stimulus signal [col.6, Ins.14-34];
and
- (d) receiving an input [i.e. by clicking a computer mouse or pressing a key on the keyboard] from the user that indicates the user heard the stimulus [col.3, Ins.14-40 and col.6, Ins.35-50];

However, Horn does not explicitly show the second sub-stimulus being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus.

In a method of testing the hearing, Goldstein suggests the second sub-stimulus being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus [col.3, Ins.9-15 and col.9, Ins.26-38].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Horn in view of Goldstein by being adapted to

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reduce one or both of harmonic distortion and quantization error in the audible stimulus because this feature provides increased intelligibility [Goldstein, col.3, ln.8]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to prevent annoying amplification of weak sounds during brief interruptions of sustained intense sounds [Goldstein, col.9, lns.33-35].

5. With respect to claims 2 and 22, Horn further teaches the act of downloading the computer program includes transferring the computer from the server to the computer via the Internet [col.3, lns.14-20].

6. With respect to claims 4, 14, 28 and 34, Horn further teaches the act of generating a stimulus includes generating a stimulus from an audio stream that utilizes a larger number of bits to represent the stimulus than would be utilized to represent the first sub-stimulus [col.7, lns.58-63].

7. With respect to claims 5, 15, 22, and 29, Horn further teaches the act of generating a stimulus includes generating a stimulus having a first sub-stimulus and a second sub-stimulus, the first sub-stimulus having amplitude that is smaller than the amplitude of the second sub-stimulus [col.7, lns.17-30].

8. With respect to claims 8, 18, 25, and 32, Horn further teaches the act of generating a stimulus includes generating a stimulus having a first sub-stimulus and a

second sub-stimulus, wherein the second sub-stimulus includes white noise [col.7, Ins.31-44].

9. With respect to claims 10 and 20, Horn further teaches steps e) sending first data to the server [col.4, Ins.57-67]; f) qualifying the hearing of the user [col.4, Ins.46-56]; and g) sending second data to the computer [col.4, Ins.57-67].

10. Claims 3 and 13 are rejected under 35 U.S.C.103(a) as being unpatentable over both Horn and Goldstein, as applied to claims 1 and 11 above, and further in view of "Official Notice".

11. With respect to claims 3 and 13, Horn teaches the method of claim 1, wherein the act of downloading the computer program includes transferring the computer program from the server to the computer but is silent on teaching via an email. "Official Notice" is taken as to transferring of program from server to computer via email is old and well known in the art. The motivation for doing so would have been to have a copy of program and transfer using email and by attaching it in the email rather than copy it on a computer readable medium.

12. Claims 6, 16, 23, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over both Horn and Goldstein, as applied to claims 1, 11, 21, and 27 above, and further in view of Davis et al. U.S. Patent 6,201,875 (hereinafter Davis).

13. With respect to claims 6, 16, 23, and 30, Horn teaches the method of claim 1, wherein the act of generating a stimulus includes generating a stimulus having a first sub-stimulus and a second sub-stimulus, but is silent on teaching the first sub-stimulus includes a Warble tone. Davis teaches first stimulus includes a warble tone. (Column 4 lines 58-67) (Column 5 lines 1-5). It would have been obvious at the time of applicant's invention to implement Horn's invention in Davis's invention to come up with stimulus, which includes a warble tone. The motivation for doing so would have been because to use the frequency and loudness of the tone to test for hearing loss.

14. Claims 7, 17, 24, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over both Horn and Goldstein, as applied to claims 1, 11, 21, and 27 above, and further in view of Priddy et al. U.S. Patent 5,774,216 (hereinafter Priddy).

15. With respect to claims 7, 17, 24, and 31, Horn teaches the method of claim 1, wherein the act of generating a stimulus includes generating a stimulus having a first sub-stimulus and a second sub-stimulus, but is silent on teaching the second sub-stimulus includes a dithering signal. Priddy teaches second stimulus includes a dithering signal. (Column 1 lines 35-43) It would have been obvious at the time of applicant's invention to implement Horn's invention in Davis's invention to come up with stimulus, which includes a dithering signal. The motivation for doing so would have been output due to using dithering signal would be zero.

16. Claims 9, 19, 26, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over both Horn and Goldstein, as applied to claims 1, 11, 21, and 27 above, and further in view of Gleeson III et al. U.S. Patent # 4,902,274 (hereinafter Gleeson).

17. With respect to claims 9, 19, 26, and 33, Horn teaches the method of claim 1, wherein the act of generating a stimulus includes generating a stimulus having a first sub-stimulus and a second sub-stimulus, but is silent on teaching second sub-stimulus includes pink noise. Gleeson teaches second sub-stimulus includes pink noise. (Column 2 lines 22-27). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Horn's invention in Gleeson's invention to come up with second sub-stimulus includes pink noise. The motivation for doing so would have been because pink noise is a variation of white noise and pink noise when heard has a very soothing effect such as ocean surf which can be used for hearing test.

Response to Arguments

18. Applicant's arguments filed March 14, 2006 have been fully considered but they are not persuasive because of the following:

19. Horn teaches a method of testing the hearing of a user utilizing a computer system, the computer system including a computer and a speaker, the computer

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operable to generate an electrical signal and then to output the electrical signal to the speaker, the speaker operable to convert the electrical signal into a stimulus, the method comprising:

- (a) downloading a computer program from a server to the computer [col.4, Ins.25-30];
- (b) executing the computer program on the computer including providing a digital stimulus signal comprising a combination of a first sub-stimulus and second sub-stimulus; the first sub-stimulus being within the audible range of humans, the second sub-stimulus being outside of the audible range of humans [col.4, ln.14 - col.5, ln.51 i.e. "during this study the decibel level is tested in 10dB increments to 120dB for each frequency tested unit consecutive responses are elicited"];
- (c) generating a stimulus using the digital stimulus signal [col.6, Ins.14-34];
and
- (d) receiving an input [i.e. by clicking a computer mouse or pressing a key on the keyboard] from the user that indicates the user heard the stimulus [col.3, Ins.14-40 and col.6, Ins.35-50];

However, Horn does not explicitly show the second sub-stimulus being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus.

In a method of testing the hearing, Goldstein suggests the second sub-stimulus being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus [col.3, Ins.9-15 and col.9, Ins.26-38].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Horn in view of Goldstein by being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus because this feature provides increased intelligibility [Goldstein, col.3, ln.8]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to prevent annoying amplification of weak sounds during brief interruptions of sustained intense sounds [Goldstein, col.9, Ins.33-35].

20. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination of both references are from the related arts for testing hearing [see the preference's titles].

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21. In response to applicant's argument that "the Examiner acknowledges that Horn et al. does not teach the use of a first and second substimulus for generation of an audible stimulus, where the second substimulus is adapted to reduce one or both of harmonic distortion and quantization error." Examiner respectfully disagrees because Horn et al. does teach a first and second substimulus [col.4, ln.14 - col.5, ln.51 i.e. "during this study the decibel level is tested in 10dB increments to 120dB for each frequency tested unit consecutive responses are elicited"]. However, Horn et al. does not explicitly show the second substimulus is adapted to reduce one or both of harmonic distortion and quantization error. In a method of testing the hearing, Goldstein suggests the second sub-stimulus being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus [col.3, lns.9-15 and col.9, lns.6-56]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Horn in view of Goldstein by being adapted to reduce one or both of harmonic distortion and quantization error in the audible stimulus because this feature provides increased intelligibility [Goldstein, col.3, ln.8]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to prevent annoying amplification of weak sounds during brief interruptions of sustained intense sounds [Goldstein, col.9, lns.33-35].

22. In response to applicant's argument that Goldstein does not teach the use of sub-stimulus in any form. Examiner respectfully disagrees because Goldstein does suggest or disclose the use of sub-stimulus [col.9, lns.7-56]. For instance, Goldstein

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clearly teaches the use of stimulus [i.e. hearing aid response, see col.9, Ins.7-56].

Further, Goldstein clearly teaches AGC provides the advantage of a slowly varying control of the maximum sensitivity of the rapidly compressing response of the channel [col.9, Ins.31-33]. The channels would be connected in parallel with one another and their outputs linearly summed to provide processing over an entire audio frequency range of interest [col.9, Ins.13-17]. Therefore, Goldstein does teach or suggest the use of sub-stimulus [col.9, Ins.6-56].

23. In response to applicant's arguments against the combination would be inoperable. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F. 2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant obviously attacks references individually without taking into consideration based on the teaching of combinations of references as show in the above. For example, the combination of both references would be operable because the references are from the related arts for testing hearing [see the preference's titles].

24. Therefore, the examiner asserts that cited prior arts teach or suggest the subject matter broadly recited in independent claims. Claims 9-10, 12-20, 22-26, and 28-34 are rejected at least by virtue of their dependency on independent claims and by other reasons set forth above. Accordingly, claims 1-34 are respectfully rejected as shown above.

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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